

NON-TRADITIONAL FORAGES FOR GRAZING: TURNIPS AND OTHER BRASSICAS

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Over the past few years there have been a number of production livestock producers that have realized the benefits of grazing turnips and other brassicas. Turnips and other brassicas have traditionally been utilized for late season grazing to help extend the grazing season. But other ways are being found to utilize these highly productive, high quality forage crops. My purpose in this presentation is to introduce the different types of turnips and brassicas and explain how they can be utilized for various systems and different uses.

Turnips: Within the turnip family there are different types that provide different opportunities for the livestock producer.

Leafy Types: These are typically varieties that have good leaf production and a tap type root. The variety most common in this type is the old garden variety “Seven Top”. There has not been research to improve this type of turnip when it comes to animal performance, palatability or dry matter yield production.

Forage Turnips: This type of turnip was developed to provide multiple grazing opportunities. While other types of turnips have one main growing point this type has from 6-20 growing points that shoot up new growth after being grazed. The bulb is firmly anchored so the animals will not pull out the bulb when grazing. If strip grazing, and only looking for one harvest, this type has shown in university studies to provide significantly more protein produced per acre over bulb type turnips, with 50% of the bulb

being consumable. Appin Forage Turnip is the most popular variety in this category.

Appin Forage Turnip was bred for improved palatability and regrowth for multiple harvests. Its high leaf to bulb ratio results in a very leafy crop with high digestibility.

Globe Types: This type of turnip is probably the most common type sown by producers. The bulb on this turnip can get quite large and is mainly above ground with the leaves coming from one main growing point. The most common in this type is the old garden variety “Purple Top”. Newer varieties would include York Green Globe and Dynamo.

Tankard Turnips: This type of turnip is a high yielding, versatile, highly nutritious, traditional soft turnip of early maturity. It is characterized by a much higher proportion of leaf compared to globe type turnips. The tankard shaped bulb, two thirds of which grows above ground, enhances utilization. This type is predominantly used for winter forage. Varieties in this category include Barkant and Sampson.

Hybrid Brassicas: Hybrid Brassicas are crosses between turnips and forage rape, kale and rape, Chinese cabbage and rape, etc... These products vary in usage, yield, palatability, and quality. Some of the more popular varieties in this category are Pasja (Forage Turnip X Forage Rape) and Tyfon (Chinese Cabbage X Rape) and Raptor. These types generally have a deeper tap root instead of a bulb. The improved products have very high yields of high quality leaves.

Forage Rape: Forage rapes differ from rape varieties that were mainly bred for seed or oil production (like Dwarf Essex rape). The improved rape varieties have improved yield, palatability, and often can be grazed more than one time. Improved varieties have a higher leaf to stem ratio, thereby providing improved animal utilization. Improved varieties include, Bonar and Barnopoli.

Forage Kale: Forage Kales are late maturing and provide late season forage. Generally these are planted in the spring and harvested in the winter. The long wait will generally be worth it as improved varieties can yield as high as 10 tons per acre of very high quality forage. Improved varieties include Maris Kestral Kale.

Swedes: Swedes are also late maturing crops that can have bulbs as large as a football. These products have a very high bulb to stem ratio and are grazed one time – generally late fall or into the winter. Improved varieties include Major Plus and Winton.

Forage Yields: Yields on the different types of products vary widely. The varieties that were bred for multiple grazings often can yield more...if grazed multiple times. If grazed one time there is minimal difference in DM yield. However, the yield will be proportionately either higher in very high quality leaves or higher in high energy bulbs. Products like Pasja will deliver only leaves but can be grazed up to 6-7 times per year when spring planted.

Cliff Schuette in Breese, IL reported grazing spring planted Pasja (planted with oats) six times in 2005. As of October 2005 the Pasja and oats yielded over 16,000# DM with 30% stand of Pasja left for grazing with the volunteer oats that came back. The average forage quality was 27.5% CP and 139 RFV in October.

When planted after cereal grains are harvested brassica yields can be as high as six tons per acre. When planted after corn

silage or early harvested corn yields can be as high as five tons per acre when planted with cereal grains or Italian ryegrass.

Forage Quality: The forage quality on brassicas can be very high. Tests on Appin Forage Turnips have shown 30+% CP, 340+ RFV, and 90+ Digestibility. Tests on Pasja have shown similar results. The leaves of the brassicas generally run 25-30% CP and 75-90% digestible. The bulbs generally run 10-13% CP with a RFV of 80-100.

Because the quality is so high, it is important to provide additional fiber to ensure best utilization of the brassicas.

Utilization of products:

Spring Planted: Some brassicas (Appin, Pasja, and Tyfon) can be planted in the spring of the year and utilized within 50-70 days when planted with ryegrass or spring oats. These products offer the opportunity to be grazed four to six times from first grazing to late fall. Others (Bonar, Barnopoli) can be grazed mid-summer and then again in the fall if properly grazed. Kale and Swedes are often planted at this time as well. Rapes, Kales, or Swedes will probably need herbicide treatments for weed control (follow label directions).

Summer Planted: Many beef and dairy farmers have been utilizing Pasja as a companion to summer annual grasses (BMR Sorghum Sudangrass, Pearl Millet, and Sudangrass) to improve the forage quality of the crop. At the Cove Mountain farm in south central Pennsylvania, dairy cows increased 8#/head/day in milk production when they grazed BMR Sorghum Sudangrass and Pasja during the summer of 2004 instead of grazing permanent pasture. Appin has also been utilized by beef farmers with summer annuals across the Midwest and Mid-Atlantic regions for this purpose, with gains reportedly at 3#/head/day when grazing the mixture. Rapes planted at this time have

also provided excellent summer-winter feed for sheep producers.

Late-Summer-Early Fall Plantings: This has been the traditional planting time for most turnips. Sowing after corn silage is harvested or early corn is shelled can provide tremendous forage to extend the grazing season. Over the past few years many Midwestern producers have flown oats, cereal rye, and turnips into standing corn with pretty good success. If trying this practice wait until the corn leaves are drying 1/3- 1/2 of the way up the plant so that proper sunlight can reach the seedlings.

Grazing Brassicas for Best Utilization:

When grazing turnips or hybrid brassicas; leave a minimum of four inches (4") of the plant for the best opportunity for quick regrowth. Strip grazing and utilizing back fences will allow for improved utilization and forage regrowth. When grazing Rape leave 10-12" or the stem for most rapid regrowth. When grazing only one time, strip graze to enhance utilization and reduce wastage.

Fertility Management: If you wish to achieve multiple grazings you need to fertilize well (~150-200# N/A in 2-4 applications, and 60-80#P/A). Cliff Schuette used the equivalent of 300# N by utilizing hog manure.

Cautions: DO NOT turn animals into brassicas when they are hungry. Make sure your electric fence is on when strip grazing. When animals acquire the taste for brassicas they can eat too much and have health problems, even to the point of death.

Do not grow brassica crops on the same site for more than two consecutive years. This will prevent the buildup of pathogens which could limit stand productivity.

For further management and product information visit <http://www.ampacseed.com/brassicas.htm> or contact me at d.robison@ampacseed.com.